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<b>(21) International Application Number:</b> PCT/US99/22520 <b>(22) International Filing Date:</b> 30 September 1999 (30.09.99) <b>(30) Priority Data:</b> 60/102,430 30 September 1998 (30.09.98) US <b>(71) Applicants (for all designated States except US):</b> AMERICAN CYANAMID COMPANY [US/US]; Five Giralda Farms, Madison, NJ 07940 (US). THE GOVERNMENT OF THE UNITED STATES OF AMERICA as represented by the UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES [US/US]; 4301 Jones Bridge Road, Bethesda, MD 20814-4799 (US). <b>(72) Inventors; and</b> <b>(75) Inventors/Applicants (for US only):</b> HOLMES, Randall, K. [US/US]; 23371 Morning Rose Drive, Golden, CO 80401 (US). JOBLING, Michael, G. [GB/US]; 5250 Cherry Creek Drive South, Apt. 18A, Denver, CO 80222 (US). ELDRIDGE, John, H. [US/US]; 4 Beatrice Cove, Fairport, NY 14450 (US). GREEN, Bruce, A. [US/US]; 49 Northfield Gate, Pittsford, NY 14534 (US). HANCOCK, Gerald, E. [US/US]; 50 Plains Road, Honeoye Falls, NY 14472 (US).		<b>(74) Agents:</b> GORDON, Alan, M.; American Home Products Corporation, Patent Law Dept. - 2B2, One Campus Drive, Parsippany, NJ 07054 (US) et al.  <b>(81) Designated States:</b> AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>
<b>(54) Title:</b> MUTANT CHOLERA HOLOTOXIN AS AN ADJUVANT  <b>(57) Abstract</b>  A mutant cholera holotoxin featuring a point mutation at amino acid 29 of the A subunit, wherein the glutamic acid residue is replaced by an amino acid other than aspartic acid, is useful as an adjuvant in an antigenic composition to enhance the immune response in a vertebrate host to a selected antigen from a pathogenic bacterium, virus, fungus or parasite. In a particular embodiment, the amino acid 29 is histidine. The mutant cholera holotoxin may contain at least one additional mutation in the A subunit at a position other than amino acid 29. The antigenic composition may include a second adjuvant in addition to the mutant cholera holotoxin.		

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